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     (FILE 'HOME' ENTERED AT 07:55:09 ON 25 SEP 2008)

     FILE 'HCAPLUS' ENTERED AT 07:55:31 ON 25 SEP 2008
L1             1 SEA ABB=ON  PLU=ON  US20050164028/PN
L2             1 SEA ABB=ON  PLU=ON  WO2003-DE02031/AP,PRN
L3             0 SEA ABB=ON  PLU=ON  DE2003-102094233/AP,PRN
L4             1 SEA ABB=ON  PLU=ON  US2005-505254/AP,PRN
L5             2 SEA ABB=ON  PLU=ON  L1 OR L2 OR L4
                 D L5 1-2 ALL
                 E REICH SPRENGER/AU
L6             7 SEA ABB=ON  PLU=ON  "REICH SPRENGER H"/AU OR "REICH
                 SPRENGER HARTMUT"/AU
                 E REICHSPRENGER/AU
                 E SPRENGER/AU
                 E SPRENGER REICH/AU
                 E GESELLSCHHAFT/CO
                 E GESELLSCHAFT/CO
L7             4 SEA ABB=ON  PLU=ON  GESELLSCHAFT/CO
                 E GESELLSCHAFT FUER/CO
                 E GESELLSCHAFT FUER SCH/CO
L8           978 SEA ABB=ON  PLU=ON  ("GESELLSCHAFT FUER SCHWEIONENFORSCHU
                 NG GSI"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORCHUNG"/CO
                 OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG"/CO OR
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                 "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG D 64220"/CO OR
                 "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG DARMSTADT"/CO OR
                 "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG DARMSTADT
                 PLASMAPHYSIK"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHU
                 NG G M B H"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG
                  GMBH POSTFACH 110 552"/CO OR "GESELLSCHAFT FUER
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                 SCHWERIONENFORSCHUNG GSI DARMSTADT"/CO OR "GESELLSCHAFT
                 FUER SCHWERIONENFORSCHUNG GSI DARMSTADT PLASMAPHYSIK"/CO
                 OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG GSI GMBH"/CO
                 OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG GSI MBH"/CO
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                 1"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG GSI
                 PLASMAPHYSIK"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHU
                 NG GSI POSTFACH 11 05 52"/CO OR "GESELLSCHAFT FUER
                 SCHWERIONENFORSCHUNG GSI POSTFACH 110 552"/CO OR
                 "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG GSI POSTFACH
                 110552"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG
                 KPII PLANCKSTR 1"/CO OR "GESELLSCHAFT FUER SCHWERIONENFOR
                 SCHUNG M B H"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHU
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              "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG MBH 6100
              DARMSTADT DE"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHU
              NG MBH 64291 DARMSTADT"/CO OR "GESELLSCHAFT FUER
              SCHWERIONENFORSCHUNG MBH 64291 DARMSTADT DE"/CO OR
              "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG MBH DARMSTADT"/CO
               OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG MBH GSI"/CO
              OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG MBH GSI
              DARMSTADT"/CO OR "GESELLSCHAFT FUER SCHWERIONENFORSCHUNG
              MBH GSI DARMSTADT PLANCKSTRASSE 1"/CO OR "GESELLSCHAFT
              FUER SCHWERIONENFORSCHUNG MBH GSI KERNPHYSIK II"/CO OR
              "GESELL
L9          982 SEA ABB=ON  PLU=ON  L7 OR L8
              SAV L9 TEMP HOR254A/A
L10       11822 SEA ABB=ON  PLU=ON  (?INSULAT?) (3A) (ROD# OR COIL# OR
              FILAMENT# OR WIRE#)
L11        3697 SEA ABB=ON  PLU=ON  (?CATHOD?) (3A) (ROD# OR COIL# OR
              FILAMENT# OR WIRE#)
L12          75 SEA ABB=ON  PLU=ON  L10 AND L11
L13      377377 SEA ABB=ON  PLU=ON  (WOUND? OR TWIST? OR COILED# OR
              COVERED# OR WREATHED# OR WRAPPED# OR TWINED# OR VERMIC?
              OR SHEATH? OR SHROUD? OR SWADDL? OR ENVELOP? ON ENCASE?)
L14          20 SEA ABB=ON  PLU=ON  L13 (2A) L12
              D L12 TI KWIC 1-10
L15       13653 SEA ABB=ON  PLU=ON  (?CATHOD?) (3A) (ROD# OR COIL# OR
              FILAMENT# OR WIRE# OR CORE# OR BASE# OR SUBSTRATE#)
L16          94 SEA ABB=ON  PLU=ON  L15 (2A) L13
              D L16 1-10 TI KWIC
L17           3 SEA ABB=ON  PLU=ON  L16 AND L10
              D L17 1-3 TI KWIC
L18           2 SEA ABB=ON  PLU=ON  L16 (2A) (?INSULAT?)
              D L18 1-2 TI KWIC
L19      377481 SEA ABB=ON  PLU=ON  (WOUND? OR TWIST? OR COILED# OR
                           COVERED# OR WREATHED# OR WRAPPED# OR TWINED#
              OR VERMIC? OR SPIRALED# OR SHEATH? OR SHROUD? OR SWADDL?
              OR ENVELOP? ON ENCASE?)
L20        1163 SEA ABB=ON  PLU=ON  (?CATHOD?) (2W) (L19)
L21          84 SEA ABB=ON  PLU=ON  L20 AND (INSULAT?)
L22          16 SEA ABB=ON  PLU=ON  L20 (2A) (?INSULAT?)
              L23       257578 SEA ABB=ON  PLU=ON  (WOUND? OR TWIST? OR
COILED# OR
              COVERS OR WREATHED# OR WRAPPED# OR TWINED# OR VERMIC? OR
              SPIRALED# OR LAY?(W)ON# OR LAY?(W)OVER#)
L24         312 SEA ABB=ON  PLU=ON  (?CATHOD?) (2W) (L23)
              D L24 1-10 TI KWIC
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L25           29 SEA ABB=ON  PLU=ON  L24 AND (?INSULAT?)
L26            2 SEA ABB=ON  PLU=ON  L24 (2A) (?INSULAT?)
                L27       11258 SEA ABB=ON  PLU=ON  ?GETTER?
L28        67694 SEA ABB=ON  PLU=ON  (?PLASMA?) (3A) (SPRAY? OR ARC? OR
                COAT? OR GENERAT?)
L29        78894 SEA ABB=ON  PLU=ON  L27 OR L28
L30            0 SEA ABB=ON  PLU=ON  L25 AND L29
L31            0 SEA ABB=ON  PLU=ON  L24 AND L29
L32            0 SEA ABB=ON  PLU=ON  L26 AND L28
                L33           0 SEA ABB=ON  PLU=ON  L12 AND L28
L34            0 SEA ABB=ON  PLU=ON  L12 AND L29
L35           58 SEA ABB=ON  PLU=ON  L28 AND L27
L36           10 SEA ABB=ON  PLU=ON  L35 AND (?CATHOD?)
                L37      113356 SEA ABB=ON  PLU=ON  (?PLASMA?) (3A)
(SPRAY? OR ARC? OR
                COAT? OR GENERAT? OR DEPOSIT?)
L38          152 SEA ABB=ON  PLU=ON  L37 AND ?GETTER?
L39           11 SEA ABB=ON  PLU=ON  L38 AND ?CATHOD?
L40          354 SEA ABB=ON  PLU=ON  L37 AND (?INSULAT?) AND (?CATHOD?)

L41           86 SEA ABB=ON  PLU=ON  L37 AND L10
L42            1 SEA ABB=ON  PLU=ON  L41 AND (?CATHOD?)

L43         7221 SEA ABB=ON  PLU=ON  (ARC?) (3A) (DEPOSIT? OR EVAPOR?)
L44         2129 SEA ABB=ON  PLU=ON  L43 AND (?CATHOD?)
L45            0 SEA ABB=ON  PLU=ON  L44 AND L10
L46           10 SEA ABB=ON  PLU=ON  L44 AND (?GETTER?)

     FILE 'HCAPLUS' ENTERED AT 10:02:32 ON 25 SEP 2008
L47           29 SEA ABB=ON  PLU=ON  L25 NOT L9
L48            1 SEA ABB=ON  PLU=ON  L47 AND PD<=2003 NOT P/DT
L49           19 SEA ABB=ON  PLU=ON  L47 AND (PD<=20030227 OR PRD<=2003022
                7 OR AD<=20030227) AND P/DT
L50           20 SEA ABB=ON  PLU=ON  L48 OR L49
                SAV L50 HOR254C/A
L51            4 SEA ABB=ON  PLU=ON  L39 AND PD<=2003 NOT P/DT
L52            6 SEA ABB=ON  PLU=ON  L39 AND (PD<=20030227 OR PRD<=2003022
                7 OR AD<=20030227) AND P/DT
L*** DEL       0 S L51 AND L52
L53           10 SEA ABB=ON  PLU=ON  L51 OR L52
L54            9 SEA ABB=ON  PLU=ON  L53 NOT L9
                SAV TEMP L54 HOR254D/A
L55            6 SEA ABB=ON  PLU=ON  L46 AND PD<=2003 NOT P/DT
L56            4 SEA ABB=ON  PLU=ON  L46 AND (PD<=20030227 OR PRD<=2003022
                7 OR AD<=20030227) AND P/DT
L57           10 SEA ABB=ON  PLU=ON  L55 OR L56
L58           10 SEA ABB=ON  PLU=ON  L57 NOT L9
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SAV L58 TEMP HOR254E/A

FILE HOME

FILE HCAPLUS

FILE COVERS 1907 - 25 Sep 2008 VOL 149 ISS 13
FILE LAST UPDATED: 24 Sep 2008 (20080924/ED)

HCAplus now includes complete International Patent Classification (I reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L50 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:1136157 HCAPLUS Full-text
TI Organic el element having test wiring
IN Nam, Wi Jin
PA Cld, Inc., S. Korea
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DT Patent
LA Korean
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2003010368	A	20030205	KR 2001-45282	20010726

<--
PRAI KR 2001-45282 20010726 <--

AB PURPOSE: An organic EL element having a test wiring is provided to perform an aging process and a lighting test process without using special equipment and form a shorting bar at the organic EL element without performing a photolithography process. CONSTITUTION: A plurality of row pads(11) are connected to a plurality of scan lines of the organic EL element. Each of the row pads(11) has a predetermined length. A plurality of column pads(12) are connected to a plurality of scan lines of the organic EL element and each of the column pads(12) has a predetermined length. An insulation layer(22) includes a contact hole(31) which is formed at upper portions of a row pad and a column pad of an anode layer(21). A plurality of cross walls(23) are formed on the insulation layer(22) perpendicular to the row pads(11) and the column pads(12). A cathode layer(24) covers all surfaces on the cross walls(23). A thickness of the cathode layer(24) is thinner than that of each of the cross walls(23).

IC ICM H05B033-00

L50 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:717447 HCAPLUS Full-text
DN 139:237496
TI High-quality aluminum-doped zinc oxide layer as transparent conductive electrode for organic light-emitting devices
IN Lee, Shuit-Tong; Jiang, Xin; Lee, Chun-Sing; Wong, Fu-Lung
PA City University of Hong Kong, Hong Kong
SO U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20030168973	A1	20030911	US 2002-93940	20020308 <--
	US 6917158	B2	20050712		

PRAI US 2002-93940 20020308 <--

AB Organic or polymer light emitting diodes are described which comprise a substrate formed of an elec. insulating material which can be either an optically transparent material or an opaque material; a conductive anode of aluminum-doped zinc oxide formed over the substrate; an organic or polymer light-emitting structure formed over the anode; and a cathode formed over the organic light-emitting

structure. A method of making the organic light-emitting diodes is also described which entails providing a substrate; depositing as an anode aluminum-doped zinc oxide film over the substrate by midfrequency magnetron sputtering operated at 40 kHz; forming an organic light-emitting structure over the anode, and depositing a cathode layer over the organic light-emitting structure. The use of the magnetron sputtering deposition technique allows aluminum-doped zinc oxide films with ITO-like elec. conductivity to be deposited.

IC ICM H05B033-00

INCL 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 75, 76

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Boroson	2003			US 6555284 B1	HCAPLUS
Halls	2003			US 20030066950 A1	HCAPLUS
Kim	2002			US 20020098668 A1	
Kim	2003			US 6645843 B2	HCAPLUS
Lee	2003			US 6521360 B2	HCAPLUS
Matsumoto	2001			US 6274014 B1	HCAPLUS
Tang, C	1987	51	913	Appl. Phys. Lett.	HCAPLUS

L50 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:976235 HCAPLUS Full-text

DN 138:48478

TI Solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and their manufacture

IN Akami, Kenji; Kusayanagi, Hiroki; Matsuya, Yasue

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002373832	A	20021226	JP 2001-179712	20010614 <--

PRAI JP 2001-179712 20010614 <--

AB The process involves (i) preparation of capacitor elements composed of an anode foil and a cathode foil wound together via a separator, (ii) preparation of an elec. conductive composition precursor by adding binders to a solution of soluble conductive polymers or a dispersion of conductive polymer fine particles, (iii) impregnating the capacitor elements with the precursor, (iv) removing the solvent or dispersoid from the precursor to form a layer of the elec. conductive composition, (v) chemical polymerization to form an elec. conductive polymer layer containing alkylnaphthalenesulfonic acid anion as dopant, and optionally (vi) anode oxidation for correction by using a forming solution containing at least water as the solvent. The layer prepared in the step iv provides enhanced coating characteristics, thereby offering solid electrolyte capacitor with higher capacitance. The dopant hardly give harm to dielec. layer of anodized film, and with elec. insulating binders in the conductive composition layer, hence lower leak current and higher moisture resistance have been achieved.

IC ICM H01G009-028

CC 76-10 (Electric Phenomena)

IT Conducting polymers
(manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

IT Electrolytic capacitors
(solid; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

IT Polyanilines
RL: TEM (Technical or engineered material use); USES (Uses)
(sulfonated, conductor; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

IT Acrylic polymers, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(water-soluble; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having conductive composition layer containing insulative binder of)

IT 126213-51-2P, Poly(3,4-ethylenedioxythiophene)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conductor; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

IT 25233-30-1D, Polyaniline, sulfonated 30604-81-0, Polypyrrole
RL: TEM (Technical or engineered material use); USES (Uses)

(conductor; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

IT 164803-21-8, Ferric butylnaphthalenesulfonate 247163-09-3, Ferric triisopropylnaphthalenesulfonate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dopant; manufacture of solid electrolytic capacitor having insulative binder-containing conductive composition layer)

IT 7429-90-5, Aluminum, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrode foil; manufacture of solid electrolytic capacitor using alkylnaphthalenesulfonic acid anion as dopants and having insulative binder-containing conductive composition layer)

L50 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:928045 HCAPLUS Full-text
DN 138:17949
TI Organic electroluminescent devices with organic layers deposited at elevated substrate temperatures
IN Lee, Shuit-tong; Lee, Chun-sing; Gao, Zhi-qiang
PA City University of Hong Kong, Hong Kong
SO U.S. Pat. Appl. Publ., 12 pp., Division of U.S. Ser. No. 250,933. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020182307	A1	20021205	US 2002-163442 <--	20020604
PRAI	US 1999-250933	A3	19990218 <--		

AB An organic light-emitting diode is described comprising (a) a substrate formed of an elec. insulating material; (b) a conductive anode formed on the substrate; (c) an organic light-emitting structure formed on the anode and which contains at least one crystalline organic layer; and (d) a cathode formed over the organic light-emitting structure. A method of fabricating the organic light-emitting diode is also described entailing (a) providing a substrate; (b) depositing an anode over the substrate; (c) sequentially forming an organic light-emitting structure over the anode at elevated substrate temps. in a vacuum system equipped with a substrate heater; and (d) depositing a cathode layer over the organic light-emitting structure.

IC ICM H05B033-10
ICS H05B033-12
INCL 427066000; 428690000; 428917000; 313504000; 313506000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

L50 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:696413 HCAPLUS Full-text
DN 137:208515
TI Pixel structure of an organic light-emitting diode displays and their fabrication method
IN Sheu, Chai-Yuan; Wang, Wen-Chun; Yeh, Yung-Hui
PA Taiwan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020125820	A1	20020912	US 2001-803450	20010308 <--
	US 6522066	B2	20030218		
	JP 2002299055	A	20021011	JP 2001-85367	20010323 <--

PRAI US 2001-803450 A 20010308 <--

AB A pixel structure of a full-color organic light-emitting diode (OLED) displays is described which comprises a black matrix region deposited and defined on a top surface of an insulating substrate; a buffer layer; a polycryst. Si layer deposited over the buffer layer and having source and drain regions of a 1st thin-film-transistor (TFT) and source and drain regions of a 2nd TFT defined for forming a polycryst. Si island; a gate layer deposited over the polycryst. Si island and defining gate electrodes of the 1st and 2nd TFTs; a storage capacitor; an interlayer deposited over the gate layer and the polycryst. Si island and defining source and drain electrode metal regions; a passivation layer deposited over the interlayer; a color changing medium region defined in the passivation layer; a layer of transparent conductive material deposited over the color changing medium region and a portion of the passivation layer; an OLED layer deposited over the layer of transparent conductive

material and the passivation layer; and a cathode metal layer deposited over the OLED layer. Methods of fabricating the pixel structure of a full-color organic light-emitting diode displays are also described which entail preparing an insulating substrate; depositing and defining a black matrix region; depositing a buffer layer; depositing a polycryst. Si layer; defining source and drain regions of a 1st and 2nd TFTs to form a polycryst. Si island by a laser crystallization method and an etching method; depositing electrode materials to form a gate layer; depositing an interlayer over the gate layer and the polycryst. Si island and depositing and patterning source and drain electrodes by a photolithog. process and an etching method; depositing a passivation layer over the interlayer and forming a color changing medium region in the passivation layer; depositing a layer of transparent conductive material; depositing an OLED layer; and depositing a cathode metal layer over the OLED layer.

IC ICM H01J001-62

INCL 313505000; X31-350.6

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73, 76

L50 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:152411 HCAPLUS Full-text

DN 134:181116

TI Flat nonaqueous electrolyte secondary battery with improvements in heavy loading discharge characteristics

IN Suzuki, Masami; Hayami, Muneto; Udagawa, Kazuo; Iiduka, Kazuo; Ishihara, Naomi; Hirahara, Satoshi; Sakai, Hirotaka; Yoda, Kiyoto; Shikota, Masataka

PA Toshiba Battery Co., Ltd., Japan

SO Eur. Pat. Appl., 51 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1079454	A2	20010228	EP 2000-117368 <--	20000823
	EP 1079454	A3	20060823		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2001068160	A	20010316	JP 1999-240964	199908

					27	<--
	JP 2001068143	A	20010316	JP 1999-241290	19990827	<--
	JP 2001143763	A	20010525	JP 1999-327679	19991118	<--
	JP 2002008729	A	20020111	JP 2000-183000	20000619	<--
	JP 2002008727	A	20020111	JP 2000-183001	20000619	<--
	TW 504854	B	20021001	TW 2000-89116426	20000815	<--
	US 6521373	B1	20030218	US 2000-641267	20000817	<--
	HK 1035605	A1	20050916	HK 2001-106014	20010827	<--
	US 20030138693	A1	20030724	US 2002-318177	20021213	<--
	US 7378186	B2	20080527			
	US 20050271938	A1	20051208	US 2005-176400	20050708	<--
PRAI	JP 1999-240964	A	19990827	<--		
	JP 1999-241290	A	19990827	<--		
	JP 1999-327679	A	19991118	<--		
	JP 2000-183000	A	20000619	<--		
	JP 2000-183001	A	20000619	<--		
	US 2000-641267	A3	20000817	<--		
	US 2002-318177	A3	20021213	<--		

AB In a flat nonaq. electrolyte secondary cell comprising an electricity-generating element including at least a cathode, a separator and an anode and a nonaq. electrolyte in the inside of a cathode case, a plurality of electrode units each consisting of the cathode and the anode opposite to each another via the separator are laminated to form an electrode group, or an electrode unit in a sheet form consisting of the cathode and the anode opposite to each another via the separator is wound to form an electrode group, or a sheet-shape cathode is wrapped with the separator except for a part contacting at inner face of cathode case and a sheet-shaped anode is set on the sheet-shaped cathode in a right angled position each other and then these cathode and anode are bent alternately to form an electrode group, and the total sum of the areas of the opposing cathode and anode in this electrode group is larger than the area of the opening of an insulating gasket in a sealed portion in the cathode case or than the area of an opening in a sealed plate in a sealed portion in the cathode case, whereby the discharge capacity upon heavy-loading discharge is significantly increased as compared with the conventional cells. Accordingly, while the size of the cell is small, the discharge capacity is increased as described above, and thus it is possible to provide a highly utilizable flat nonaq. electrolyte secondary cell. Further, in the flat nonaq. electrolyte secondary cell, problems which may be caused by the increased discharge capacity in the cell can be solved by improving the solvent and supporting electrolyte for the electrolyte or by various improvements in the cathode and anode cases.

IC ICM H01M010-40
ICS H01M002-02; H01M010-04

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 55

L50 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:50942 HCAPLUS Full-text
DN 134:109256
TI Solid state capacitors and methods of manufacturing them
IN Huntington, David
PA Avx Limited, UK
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004919	A1	20010118	WO 2000-GB2629	200007

07

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1192626	A1	20020403	EP 2000-946064	20000707 <--
EP 1192626	B1	20050420		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

JP 2003504862	T	20030204	JP 2001-509054	20000707 <--
AT 293836	T	20050515	AT 2000-946064	20000707 <--
IL 147462	A	20051120	IL 2000-147462	20000707 <--
CN 1319088	C	20070530	CN 2000-812513	20000707 <--
US 6643121	B1	20031104	US 2002-30569	20020819 <--

PRAI	GB 1999-16048	A	19990708	<--
	WO 2000-GB2629	W	20000707	<--

AB The application relates to the field of solid state capacitors. The invention particularly relates to an improved method of manufacturing multiple capacitors on a substrate. According to one aspect of the present invention there is provided a method of manufacturing solid state capacitors comprising: providing an elec. conducting substrate having a plurality of apertures formed therethrough; forming plurality of porous bodies comprising valve action material on the

substrate, a portion of each porous body being accommodated in an associated aperture; forming an elec. insulating layer over the free surface of the porous bodies; forming a conducting cathode layer over the elec.
insulating layer applied to the porous bodies; and providing cathode termination means on an exposed underside surface of each coated porous body accommodated in the aperture, providing anode termination means on an underside surface of the substrate adjacent the aperture, the anode termination forming an elec. contact with the substrate material and the cathode termination forming an elec. contact with the cathode layer, and dividing the substrate into individual capacitor units, each comprising a porous body accommodated in an aperture-defining portion of the substrate.

IC ICM H01G009-012
CC 76-10 (Electric Phenomena)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Rohm Co Ltd	1997			EP 0758788 A	HCAPLUS
Salisbury Ian	1994			US 5357399 A	HCAPLUS

L50 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:274706 HCAPLUS Full-text
DN 132:281648
TI Stainless steel caps for hot press joining for sodium/sulfur batteries
IN Ando, Takashi
PA Ngk Insulators, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000123863	A	20000428	JP 1998-292472	19981014 <--
	JP 3315937	B2	20020819		
PRAI	JP 1998-292472		19981014 <--		

AB In the hot pressing joining of an insulator ring to a cathode cover at its inward flange, at the bottom of a tubular part of the cover, a

stainless steel hot pressing cap with an inward flange, having a thermal expansion coefficient ≤15x10-6/°C or micro Vickers hardness ≤150, is placed under the cathode cover.

IC ICM H01M010-39
ICS B23K020-00; C04B037-02; H01M002-04
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT Secondary batteries
(structure and properties of stainless steel caps for hot press joining of cathode covers and insulator rings for sodium/sulfur batteries)
IT 12597-68-1, Stainless steel, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(structure and properties of stainless steel caps for hot press joining of cathode covers and insulator rings for sodium/sulfur batteries)

L50 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:219031 HCAPLUS Full-text
DN 132:230785
TI Process for manufacturing arrays of field emission tips
IN Bothra, Subras; Qian, Ling Q.
PA VLSI Technology, Inc., USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6045425	A	20000404	US 1997-819284 <--	19970318

PRAI US 1997-819284 19970318 <--
AB A method for manufacturing arrays of field emission tips, suitable for use in field-emission displays (FEDs), begins by depositing a conductive cathode layer over a substrate and then patterning the conductive cathode layer to define a set of cathode structures on which the array of tips are to be formed. A layer of a insulator material is deposited and then a layer of lift-off material is deposited. The lift-off material is capable of being selectively etched with respect to the insulator layer. The insulator material layer and lift-off material layer are patterned to define a set of apertures in which field emission tips are to be formed. Next, tip material is deposited using an unbiased high d. plasma chemical vapor deposition (HDPCVD) process to form sharp field emission tips in the

apertures. The HDPCVD process also forms a sacrificial layer of islands of tip material on top of the patterned layer of lift-off material. After the formation of the field emission tips, the patterned layer of lift-off material is removed using a wet chemical etchant that also removes sacrificial layer of tip material. A layer of fill material is deposited and planarized so as to fill the apertures in which the tips were formed. A gate layer is then deposited and patterned to form gate structures. A subsequent wet etch removes the fill material surrounding the emitter tips.

IC ICM H01J009-02
INCL 445024000
CC 76-12 (Electric Phenomena)
IT Electric insulators
Etching
Field emission cathodes
Field emitters
(process for manufacturing arrays of field emission tips)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bothra	1996			US 5540958	HCAPLUS
Derbyshire, K	1994		55	Solid State Technolo	
Greschner	1988			US 5817201	HCAPLUS
Kumar, N	1995		71	Solid State Technolo	HCAPLUS
Liu	1997			US 5693235	HCAPLUS
Singer, P	1995		90	Semiconductor Intern	
Spindt	1988			US 5827099	HCAPLUS

L50 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:389303 HCAPLUS Full-text
DN 129:35371
OREF 129:7299a,7302a
TI Ion plating apparatuses with long-life hollow cathodes and thin-film fabrication using the same
IN Hibino, Yukinobu; Matsuzaki, Kanenori; Hakomori, Nuneto; Kurauchi, Toshiharu
PA ULVAC Japan, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 10158823 A 19980616 JP 1996-342451

199612

06

<--

PRAI JP 1996-342451 19961206 <--

AB Title apps. include cylindrical hollow cathodes consisting of (i) outer layers of high-m.p. metals (A; preferably Ta, Mo, and/or W) and (ii) inner layers of LaB_6, and cylindrical protective covers around the cathodes. The covers are consist of materials with sputtering rate smaller than that of A. The covers protect the cathodes from sputtering and also protect substrates from radiation heat of the cathodes. Thin-film fabrication using the apps. is also claimed.

IC ICM C23C014-32

CC 76-12 (Electric Phenomena)

Section cross-reference(s): 75

ST ion plating hollow cathode lanthanum boride; protective cover electron emitting lanthanum boride; graphite heat insulator life hollow cathode

IT Sputtering cathodes

(hollow; long-life hollow cathodes containing LaB6 and cathode-protective covers for ion plating apparatus)

IT Vapor deposition apparatus

Vapor deposition apparatus

(ion plating; long-life hollow cathodes containing LaB6 and cathode-protective covers for ion plating apparatus)

IT Thermal insulators

(long-life hollow cathodes containing LaB6 and cathode -protective covers for ion plating apparatus)

IT 12008-21-8, Lanthanum boride (LaB6)

RL: DEV (Device component use); USES (Uses)

(long-life hollow cathodes containing LaB6 and cathode -protective covers for ion plating apparatus)

IT 1309-48-4P, Magnesium oxide, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(long-life hollow cathodes containing LaB6 and cathode -protective covers for ion plating apparatus)

IT 7440-25-7, Tantalum, uses

RL: DEV (Device component use); USES (Uses)

(outer layers of cathodes; long-life hollow cathodes containing LaB6

and cathode-protective covers for ion plating apparatus)

IT 7439-98-7, Molybdenum, uses 7440-33-7, Tungsten, uses

RL: DEV (Device component use); USES (Uses)

(outer layers; long-life hollow cathodes containing LaB6 and

cathode-protective covers for ion plating apparatus)
IT 7782-42-5, Graphite, uses
RL: DEV (Device component use); USES (Uses)
(protective covers; long-life hollow cathodes containing LaB6 and cathode-protective covers for ion plating apparatus)
IT 7439-95-4, Magnesium, uses 7782-44-7, Oxygen, uses
RL: DEV (Device component use); USES (Uses)
(sources; long-life hollow cathodes containing LaB6 and cathode-protective covers for ion plating apparatus)

AN 1995:951292 HCAPLUS Full-text
DN 123:345675
OREF 123:61925a,61928a
TI Seawater batteries
IN Sasaki, Hideo; Kobashi, Hironori
PA Yuasa Battery Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07230813	A	19950829	JP 1994-18117	19940215 <--
	JP 3454283	B2	20031006		
PRAI	JP 1994-18117		19940215 <--		

AB The batteries have an insulator for a cathode on the edge of the top side of a circular bottom frame plate, an insulator of the cathode on the edge of the bottom of a circular top frame plate, an anode holder at the center of 1 frame plate, an opening at the center of the other frame plate for inserting the anode rod, an anode insulator between the opening and the anode rod, a cathode plate wound in a tube and held by the cathode insulators on the plates, and an anode lead connected to a metal core in the anode rod; where the anode rod is grooved on the side wall near the end connected to the anode lead, and a synthetic resin is cast into the gap between this end and the anode insulator. This structure facilitates the replacement of consumed anodes.
IC ICM H01M006-34
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

AN 1994:568541 HCAPLUS Full-text
DN 121:168541
OREF 121:30321a,30324a
TI Solid electrolyte capacitor
IN Nakayama, Takuya
PA Nippon Chemicon, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06045203	A	19940218	JP 1992-193623	19920721 <--
PRAI	JP 1992-193623		19920721 <--		

AB Title capacitor comprises a cathode made of an Al filament which is wound around a projection on an insulated substrate, a solid electrolyte coated over a portion of the wound filament, terminals each attached to the coil and the electrolyte, an insulative cover formed over the projection, and a heat-resistant and elec.-insulative polymer potting material such as epoxy resin to seal the space between the substrate and the cover. The capacitor is compact and has an increased capacitance.
IC ICM H01G009-05
ICS H01G009-04
CC 76-10 (Electric Phenomena)
Section cross-reference(s): 38, 56
IT Cathodes
(aluminum filament-wound)

L50 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1994:303346 HCAPLUS Full-text
DN 120:303346
OREF 120:53329a,53332a
TI Sealed secondary batteries
IN Cho, Teki; Nakajima, Hiroharu; Nomura, Eiichi
PA Yuasa Battery Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

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PI JP 06045004 A 19940218 JP 1992-218616
199207
24
<--

PRAI JP 1992-218616 19920724 <--

AB The batteries, especially Na/S batteries, have an α-Al_2O_3 ring at the open top end of an ion-conductive solid electrolyte tube, an anode chamber cover attached to 1 side of the ring, and a cathode chamber cover attached to the other side of the ring; where the anode and/or cathode covers are attached via an Al layer containing >30 ppm Si to the ring. These batteries have reliable bonding and long lifetime.

IC ICM H01M010-39

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT Batteries, secondary
(sealed, sodium/sulfur, aluminum binder layers containing silicon for
insulation ring and electrode chamber caps in)

L50 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:150254 HCAPLUS Full-text

DN 112:150254

OREF 112:25179a,25182a

TI Solid-electrolyte capacitor

IN Kuranuki, Kenji; Ozaki, Junji; Aoshima, Yoichi; Yoshida, Shingo; Sugino, Satoshi

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01235231	A	19890920	JP 1988-61062	19880315 <--

PRAI JP 1988-61062 19880315 <--

AB A solid-electrolyte capacitor comprises a capacitor element consisting of an anode foil and a cathode foil wound up with a separator sheet impregnated with a complex salt of 7,7,8,8-tetracyanoquinodimethan and a fuse connected in series with the lead wires from the foils, wherein the leads and the fuse are coated with

a heat-resisting insulator. The fuse prevents release of toxic gases in case of the capacitor failure.

IC ICM H01G009-12
ICS H01G009-02
CC 76-10 (Electric Phenomena)

L50 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:150250 HCAPLUS Full-text
DN 112:150250
OREF 112:25179a,25182a
TI Solid-electrolyte capacitor
IN Kuranuki, Kenji; Ozaki, Junji; Aoshima, Yoichi; Yoshida, Shingo
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01235227	A	19890920	JP 1988-61058	19880315 <--

PRAI JP 1988-61058 19880315 <--

AB A solid-electrolyte capacitor comprises a capacitor element consisting of an anode foil and a cathode foil wound up with a separator sheet impregnated with a complex salt of 7,7,8,8-tetracyanoquinodimethan and a fuse connected in series with the lead wires from the foils, wherein the fuse is disposed in contact with a heat-resisting insulator formed on 1 end of the wound capacitor case. The fuse prevents release of toxic gases in case of the capacitor failure.

IC ICM H01G009-12
ICS H01G009-02
CC 76-10 (Electric Phenomena)

L50 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:124581 HCAPLUS Full-text
DN 112:124581
OREF 112:20999a,21002a
TI Electrolytic system for wastewater treatment
IN Herbst, Robert J.; Renk, Russell R.
PA Clean Up and Recovery Corp., USA
SO U.S., 15 pp. Cont.-in-part of U.S. Ser. No. 74,680, abandoned.
CODEN: USXXAM

DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4872959	A	19891010	US 1987-102681	19870930 <--
	WO 8809772	A1	19881215	WO 1988-US916	19880315 <--
	W: AU, BB, BG, BR, DK, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	EP 394232	A1	19901031	EP 1988-903607	19880315 <--
	EP 394232	B1	19920930		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 81105	T	19921015	AT 1988-903607	19880315 <--
	CA 1331579	C	19940823	CA 1988-567308	19880519 <--
	ZA 8803915	A	19890222	ZA 1988-3915	19880602 <--
	ES 2006671	A6	19890501	ES 1988-1748	19880603 <--
	DD 274237	A5	19891213	DD 1988-316494	19880607 <--
	CN 1030264	A	19890111	CN 1988-103522	19880608 <--

PRAI US 1987-59998 A2 19870609 <--
US 1987-74680 A2 19870717 <--
US 1987-102681 A 19870930 <--
EP 1988-903607 A 19880315 <--
WO 1988-US916 W 19880315 <--

AB The title system for coagulation of wastewaters comprises means for passing the water along an inner helical insulator that is wrapped around a central solid anode rod (or anode tube) and an enclosing inner cathode tube, then along a cathode tube wrapped or spaced with another helical insulator and an enclosing outer anode tube. With application of a d.c. voltage, both suspended materials and dissolved solids are removed from the wastewater. The system can be used for recovery of metals, especially Au, from wastewaters.

IC C25C001-20; C25F005-00; C25B009-00

INCL 204109000

CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 72

L50 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1989:181647 HCAPLUS Full-text

DN 110:181647

OREF 110:29989a,29992a

TI System for electrolytic treatment of liquid

IN Herbst, Robert J.; Renk, Russell R.

PA Clean Up and Recovery Corp., USA

SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8809772	A1	19881215	WO 1988-US916 <--	19880315
	W: AU, BB, BG, BR, DK, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4872959	A	19891010	US 1987-102681 <--	19870930
	AU 8815745	A	19890104	AU 1988-15745	19880315

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                                                    <--
     EP 394232           A1    19901031   EP 1988-903607
                                                                    198803
                                                                    15
                                                    <--
     EP 394232           B1    19920930
         R:  AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
     AT 81105            T     19921015   AT 1988-903607
                                                                    198803
                                                                    15
                                                    <--
     ZA 8803915          A     19890222   ZA 1988-3915
                                                                    198806
                                                                    02
                                                    <--
     DD 274237           A5    19891213   DD 1988-316494
                                                                    198806
                                                                    07
                                                    <--
PRAI US 1987-59998       A     19870609  <--
     US 1987-74680       A     19870717  <--
     US 1987-102681      A     19870930  <--
     EP 1988-903607      A     19880315  <--
     WO 1988-US916       A     19880315  <--
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AB An electrolytic system for treating aqueous solution to form nonhazardous sludges passes the solution along an inner helical insulator wrapped around a centrally located anode solid rod and an enclosing inner cathode tube, then along the inner cathode tube wrapped or spaced with another helical insulator and an enclosing outer anode tube. The solid rod can be replaced with an innermost tube in order for the solution to initially pass through a cathode portion of the system. Also, an innermost cathode tube can have a plurality of apertures as passages for the solution A d.c. voltage is applied, in 1 direction or in sequential fields of different directions, across the number of metal rods and tubes, thereby effectively removing both suspended materials and dissolved solids from the aqueous solution to be treated. The power required from the d.c. voltage source can be decreased by treating specified tubes or rods.

IC ICM C02F001-46

CC 72-9 (Electrochemistry)
Section cross-reference(s): 60

L50 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1984:182214 HCAPLUS Full-text

DN 100:182214

OREF 100:27609a,27612a

TI   Wrapped grounding anode for cathodic protection
IN   Vavrina, Jindrich; Radomil, Milan
PA   Czech.
SO   Czech., 3 pp.
     CODEN: CZXXA9
DT   Patent
LA   Czech
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 211679	B1	19820226	CS 1980-1556	19800306 <--
PRAI	CS 1980-1556		19800306 <--		

AB   The wrapped grounding anode for the cathodic corrosion prevention is provided with a porous concrete jacket, which prevents penetration of mud to electrodes. It consists of 1 or more ferrosilicon electrodes in a conductivity material, e.g. coke, and insulated conductors, all placed in the concrete jacket ≥2 cm thick with a venting tube fixed to an upper lid. The porous material can be soaked with ≥0.1% aqueous NaCl.
IC   C23F013-00
CC   72-6 (Electrochemistry)
ST   anode grounding wrapped cathodic protection; cathodic protection wrapped anode; ferrosilicon anode cathodic protection

L50 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2008 ACS on STN
AN   1979:113687 HCAPLUS Full-text
DN   90:113687
OREF 90:17821a,17824a
TI   Carbon tetrafluoride etching in a diode system
AU   Bondur, James A.
CS   Data Syst. Div., IBM, East Fishkill, NY, USA
SO   Journal of the Electrochemical Society (1979), 126(2), 226-31
     CODEN: JESOAN; ISSN: 0013-4651
DT   Journal
LA   English
AB   The effect of cathode material [(1) Al and stainless steel; (2) cathode covers SiO2 and Si] on the etch rates of SiO2, Si3N4, Si, and AZ-1350J (Shipley) were investigated, using CF4 gas in a diode system. Image-control information is presented to demonstrate the capabilities of the diode system in the etching of insulator film.
CC   76-4 (Electric Phenomena)

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L50  ANSWER 20 OF 20  HCAPLUS  COPYRIGHT 2008 ACS on STN
AN   1960:73151  HCAPLUS  Full-text
DN   54:73151
OREF 54:13914e-f
TI   Electrolytic capacitors
IN   Ushioda, Yuichi
PA   Sankosha Manufg. Co., Ltd.
DT   Patent
LA   Unavailable
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------
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PI   JP 34007637          B4    19590901    JP
                                                 <--
AB    The winding of electrodes is divided into 2 or 3 steps to improve the
      impregnation of an electrolyte into a separator of the inner portion.
      For example, anode and cathode foils are wound around an outer core
      tube of Al or an insulating material.  A separator is inserted
      between the electrodes, and an inner-wound tubular element is placed
      in the core tube.
CC   4 (Electrochemistry)


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L54  ANSWER 1 OF 9  HCAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:720495  HCAPLUS  Full-text
DN   141:234489
TI   Filtered cathodic arc deposition method and apparatus for
     fuel cell plates
IN   Gorokhovsky, Vladimir I.
PA   G & H Technologies LLC, USA
SO   U.S. Pat. Appl. Publ., 55 pp., Cont.-in-part of U.S. Ser. No.
     826,940.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------
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PI   US 20040168637       A1    20040902    US 2003-694453
                                                                   200310
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US 7300559 B2 20071127
CA 2305938 A1 20011010 CA 2000-2305938 20000410 <--
CA 2305938 C 20070703
US 20020007796 A1 20020124 US 2001-826940 20010406 <--
US 6663755 B2 20031216
PRAI CA 2000-2305938 A 20000410 <--
US 2001-826940 A2 20010406 <--

AB The invention relates to an apparatus for the application of coatings in a vacuum comprising a plasma duct surrounded by a magnetic deflecting system communicating with a first plasma source and a coating chamber in which a substrate holder is arranged off of an optical axis of the plasma source, has at least one deflecting electrode mounted on one or more walls of the plasma duct. In one embodiment an isolated repelling or repelling electrode is positioned in the plasma duct downstream of the deflecting electrode where the tangential component of a deflecting magnetic field is strongest, connected to the pos. pole of a current source which allows the isolated electrode current to be varied independently and increased above the level of the anode current. The deflecting electrode may serve as a getter pump to improve pumping efficiency and divert metal ions from the plasma flow. In a further embodiment a second arc source is activated to coat the substrates while a first arc source is activated, and the magnetic deflecting system for the first arc source is deactivated to confine plasma to the cathode chamber but permit electrons to flow into the coating chamber for plasma immersed treatment of the substrates. A load lock shutter may be provided between the plasma duct and the coating chamber further confine the plasma from the first arc source.

IC ICM C23C014-22
ICS C23C016-00
INCL 118723000ER; X42-756.9; X42-758.0; X20-429.841; X20-419.238
CC 76-11 (Electric Phenomena)
Section cross-reference(s): 52
ST filtered cathodic arc plasma CVD fuel cell plate
IT Sputtering cathodes
(arc; filtered cathodic arc plasma CVD apparatus for fuel cell plate)
IT Electric arc
Electric coils
Fuel cells

(filtered cathodic arc plasma CVD
apparatus for fuel cell plate)

IT Vapor deposition apparatus
(plasma; filtered cathodic arc
plasma CVD apparatus for fuel cell plate)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1992			EP 0495447 A1	HCAPLUS
Anon	1992			EP 0511153 A1	HCAPLUS
Anon	1994			DE 4223592 A1	
Anon	1999			DE 19739527 A1	HCAPLUS
Bergmann	1989			US 4877505 A	HCAPLUS
Buhl	1984			US 4448802 A	HCAPLUS
Buhl	1990			US 4929321 A	HCAPLUS
Buhl	1995			US 5387326 A	HCAPLUS
Decker	1998			US 5799549 A	
Ehrich	1997			US 5662741 A	HCAPLUS
Falabella	1994			US 5279723 A	HCAPLUS
Falabella	1995			US 5468363 A	HCAPLUS
Giersch	2002			US 6338778 B1	HCAPLUS
Gorokhovsky	1995			US 5380421 A	HCAPLUS
Gorokhovsky	1995			US 5435900 A	HCAPLUS
Gorokhovsky	1996			US 5587207 A	
Gorokhovsky	2003			US 6663755 B2	HCAPLUS
Gorokhovvsky	2003			US 6645354 B1	HCAPLUS
Grabarz	1994			US 5302266 A	HCAPLUS
Klepper	2002			US 6495002 B1	HCAPLUS
Kljuchko	1985			US 4492845 A	HCAPLUS
Martin	1995			US 5433836 A	HCAPLUS
Morrison	1984			US 4448659 A	HCAPLUS
Morrison	1988			US 4724058 A	
Ramalingam	1987			US 4673477 A	HCAPLUS
Ramalingam	1994			US 5298136 A	HCAPLUS
Sablev	1974			US 3793179 A	
Sablev	1996			US 5503725 A	HCAPLUS
Treglio	1994			US 5317235 A	
Welty	1996			US 5480527 A	HCAPLUS
Welty	1998			US 5840163 A	HCAPLUS
Welty	1999			US 5997705 A	HCAPLUS

L54 ANSWER 2 OF 9 HCAPLUS

AN 2002:256539 HCAPLUS Full-text

DN 136:287649

TI Porous getter devices with reduced particle loss and method for their manufacture
IN Conte, Andrea; Moraja, Marco
PA Saes Getters S.p.A., Italy
SO PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002027058	A1	20020404	WO 2001-IT488	20010925 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	IT 2000MI2099	A1	20020327	IT 2000-MI2099	20000927 <--
	IT 1318937	B1	20030919		
	TW 278523	B	20070411	TW 2001-90123227	20010920 <--
	AU 2001095881	A	20020408	AU 2001-95881	20010925 <--
	EP 1322795	A1	20030702	EP 2001-976619	20010925 <--
	EP 1322795	B1	20070815		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 2004509757	T	20040402	JP 2002-530818	

200109
25
<--
RU 2253695 C2 20050610 RU 2003-112221
200109
25
<--
AT 370261 T 20070915 AT 2001-976619
200109
25
<--
US 20020093003 A1 20020718 US 2001-967234
200109
27
<--
US 6620297 B2 20030916
US 20030165707 A1 20030904 US 2003-389382
200303
14
<--
US 6783696 B2 20040831
KR 784584 B1 20071210 KR 2003-704244
200303
24
<--
US 20050023134 A1 20050203 US 2004-871353
200406
18
<--
US 7122100 B2 20061017
HK 1073337 A1 20071130 HK 2005-105847
200507
11
<--
PRAI IT 2000-MI2099 A 20000927 <--
WO 2001-IT488 W 20010925 <--
US 2001-967234 A3 20010927 <--
US 2003-389382 A1 20030314

AB A method for reducing the loss of particles form the surface of porous getter bodies, consisting in producing on this surface a thin layer of a metal or metal alloy with a deposition technique selected among evaporation, deposition from arc generated plasma , deposition form ionic beam and cathodic deposition.

IC ICM C23C014-16
ICS H01J007-18; F04B037-04

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 55, 56

ST   manuf porous getter device reduced particle loss
IT   Ion beams
        (deposition; porous getter devices with reduced
        particle loss and method for manufacture)
IT   Electric arc
     Electrophoresis
     Evaporation
     Getters
     Particles
     Plasma
     Screen printing
        (porous getter devices with reduced particle loss and
        method for manufacture)
IT   Titanium alloy, base
     Zirconium alloy, base
     RL: DEV (Device component use); TEM (Technical or engineered
     material use); USES (Uses)
        (porous getter devices with reduced particle loss and
        method for manufacture)
IT   7429-90-5, Aluminum, uses   7439-98-7, Molybdenum, uses   7440-03-1,
     Niobium, uses   7440-25-7, Tantalum, uses   7440-32-6, Titanium,
     uses   7440-58-6, Hafnium, uses   7440-62-2, Vanadium, uses
     7440-67-7, Zirconium, uses   7704-98-5, Titanium hydride
     11105-16-1, Zirconium hydride   12780-86-8   75846-81-0
     405938-05-8, Cobalt 14, yttrium 5, zirconium 81   405938-06-9,
     Cobalt 14, lanthanum 5, zirconium 81
     RL: DEV (Device component use); TEM (Technical or engineered
     material use); USES (Uses)
        (porous getter devices with reduced particle loss and
        method for manufacture)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Gabbrielli, E	1957			FR 1132524 A	
Getters Spa	2000			WO 0007209 A	HCAPLUS
Paolo, D	2000			WO 0075950 A	
Xrt Corp	2000			WO 0010643 A	HCAPLUS

L54 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN   2002:72629 HCAPLUS Full-text
DN   136:136696
TI   Method and apparatus for application of filtered cathodic
     arc deposition coatings in a vacuum
IN   Gorokhovsky, Vladimir I.

PA G & H Technologies LLC, Can.
SO U.S. Pat. Appl. Publ., 40 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 20020007796	A1	20020124	US 2001-826940	20010406	<--
	US 6663755	B2	20031216			
	CA 2305938	A1	20011010	CA 2000-2305938	20000410	<--
	CA 2305938	C	20070703			
	US 20040168637	A1	20040902	US 2003-694453	20031027	<--
	US 7300559	B2	20071127			
	US 20040103845	A1	20040603	US 2003-713529	20031113	<--
	US 7252745	B2	20070807			
	US 20080116058	A1	20080522	US 2007-890736	20070806	<--
PRAI	CA 2000-2305938	A	20000410	<--		
	US 2001-826940	A2	20010406	<--		
	US 2003-713529	A1	20031113			

AB An apparatus for the application of coatings in a vacuum comprising a plasma duct surrounded by a magnetic deflecting system communicating with a first plasma source and a coating chamber in which a substrate holder is arranged off of an optical axis of the plasma source, has at least one deflecting electrode mounted on one or more walls of the plasma duct. In one embodiment an isolated repelling or repelling electrode is positioned in the plasma duct downstream of the deflecting electrode where the tangential component of a deflecting magnetic field is strongest, connected to the pos. pole of a current source which allows the isolated electrode current to be varied independently and increased above the level of the anode current.

The deflecting electrode may serve as a getter pump to improve pumping efficiency and divert metal ions from the plasma flow. In a further embodiment a second arc source is activated to coat the substrates while a first arc source is activated, and the magnetic deflecting system for the first arc source is deactivated to confine plasma to the cathode chamber but permit electrons to flow into the coating chamber for plasma immersed treatment of the substrates. A load lock shutter may be provided between the plasma duct and the coating chamber further confine the plasma from the first arc source.

IC ICM C23C016-00

INCL 118723000ER

CC 47-2 (Apparatus and Plant Equipment)
Section cross-reference(s): 48, 52, 56, 57, 76

ST vacuum plasma coating application method app;
fuel cell plate vacuum plasma coating

IT Sputtering
(anodes, arc; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Coating materials
(anticorrosive; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Sputtering cathodes
(arc; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(chemical; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Superlattices
(coatings; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(ion plating; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Coating process
Electric arc
Fasteners
Ion implantation
Magnetic field
Plasma
Vacuum
Vacuum arc
(method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(phys.; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Nitriding

(plasma; method and apparatus for application of filtered
cathodic arc deposition coatings in vacuum)
IT Fuel cell electrodes
(plates; method and apparatus for application of filtered
cathodic arc deposition coatings in vacuum)
IT 12741-56-9, H13 Steel
RL: TEM (Technical or engineered material use); USES (Uses)
(Ti implantation in; method and apparatus for application of
filtered
cathodic arc deposition coatings in vacuum)
IT 7440-48-4, Cobalt, uses
RL: MOA (Modifier or additive use); USES (Uses)
(WC with; method and apparatus for application of filtered
cathodic arc deposition coatings in vacuum)
IT 7782-40-3, Diamond, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon like; method and apparatus for application of filtered
cathodic arc deposition coatings in vacuum)
IT 7440-44-0, Carbon, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(diamond-like; method and apparatus for application of filtered
cathodic arc deposition coatings in vacuum)
IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(fuel cell endplates; method and apparatus for application of
filtered
cathodic arc deposition coatings in vacuum)
IT 7440-32-6, Titanium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(implantation, in steel; method and apparatus for application of
filtered cathodic arc deposition coatings in vacuum)
IT 74-82-8, Methane, processes 7550-45-0, Titanium tetrachloride,
processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)
(method and apparatus for application of filtered cathodic
arc deposition coatings in vacuum)
IT 12597-68-1, Stainless steel, uses 12597-69-2, Steel, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(method and apparatus for application of filtered cathodic
arc deposition coatings in vacuum)
IT 7439-98-7, Molybdenum, uses 7440-05-3, Palladium, uses
7440-06-4, Platinum, uses 10043-11-5, Boron nitride, uses
12069-32-8, Boron carbide 12070-12-1, TUngsten carbide wc
12347-09-0, Titanium carbide nitride ticn 12656-55-2, Boron

carbide nitride bcn 12705-37-2, Chromium nitride 24094-93-7, Chromium nitride crn 25583-20-4, Titanium nitride tin 25658-42-8, Zirconium nitride zrn 39402-02-3
RL: TEM (Technical or engineered material use); USES (Uses)
(method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

L54 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:661738 HCAPLUS Full-text
DN 135:204054
TI Fiber-based field emission display
IN Moore, Chad
PA USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001065586	A2	20010907	WO 2001-US6583	20010301 <--
	WO 2001065586	A3	20021227		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 20010034174	A1	20011025	US 2001-797383	20010301 <--
	US 6507146	B2	20030114		
	EP 1290709	A2	20030312	EP 2001-924104	20010301 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

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     US 20010054870       A1    20011227   US 2001-925351
                                                                200108
                                                                09
                                                     <--
     US 6750605           B2    20040615
     US 20030096543       A1    20030522   US 2002-300528
                                                                200211
                                                                20
                                                     <--
     US 6917156           B2    20050712
PRAI US 2000-186024P      P     20000301  <--
     US 2001-797383       A     20010301  <--
     US 1999-299371       A3    19990426  <--
     WO 2001-US6583       W     20010301  <--
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AB The invention relates to a field emission display constructed using an array of fibers and an orthogonal array of emitter electrodes. Each fiber in the fiber array contains an extraction electrode, spacer, a high voltage electrode and a phosphor layer. The array of emitter electrodes consists of C nanotube emitters attached to conductive electrodes. The emitter electrodes are separated using nonconductive fibers. A getter material in the form of a wire is placed within the array of emitter electrodes to maintain a high vacuum within the display.

IC ICM H01J001-304
ICS H01J001-312

CC 76-12 (Electric Phenomena)
Section cross-reference(s): 75

IT Cathodoluminescence
Electrodes
Getters
Phosphors
(fiber-based field emission display with carbon nanotubes as electron emitters)

IT Coating process
(plasma spraying, conductive film coating; fiber-based field emission display with carbon nanotubes as electron emitters)

L54 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:455426 HCAPLUS Full-text
DN 125:151985
OREF 125:28271a,28274a
TI Evaluation of plasma surface interaction of boron film used as plasma first wall. Oxygen gettering properties and hydrogen retention properties
AU Mochizuki, Takahiro; Hirohata, Yuko; Hino, Tomoaki; Yamashina, Toshiro; Tsuzuki, Kazuhiro; Natsir, Muhamad; Inoue, Noriyuki;

Sagara, Akio; Noda, Nobuaki; et al.
CS Fac. Eng., Hokkaido Univ., Sapporo, 060, Japan
SO Hokkaido Daigaku Kogakubu Kenkyu Hokoku (1996), 177, 1-10
CODEN: HDKKAA; ISSN: 0385-602X
PB Hokkaido Daigaku
DT Journal
LA Japanese
AB B films were coated on plasma facing material of nuclear fusion devices as O getters. H is also retained by the B film during the plasma discharge. If this H is emitted into the plasma, it causes plasma energy loss. The authors deposited the B films on a liner made from stainless steel or graphite by plasma CVD of a diborane (B2H6) and H2 gas mixture The O gettering and H retention properties of these B films were studied when the O or H is discharged by using the liner as the cathode. The O gettering amount of the B film on the graphite liner was 2 times larger than that of the B film on stainless steel. The depth of O gettered into the B film was 50-100 nm. The O is bonded chemical to the B. The O gettering of the B film was refreshed by a He glow discharge. The amount of H retained in the B film is almost the same as that in the graphite. The H retained in the B film and the graphite is desorbed almost completely during heating at ≤ 500°.
CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 71, 76
ST oxygen gettering boron wall coating; nuclear fusion reactor boron wall coating; plasma surface interaction boron wall coating; hydrogen retention plasma boron wall coating
IT Nuclear fusion reactors
(boron wall coating plasma-surface interaction, hydrogen retention, and oxygen gettering)
IT Getters
Vapor deposition processes
(nuclear fusion reactor boron wall coating plasma-surface interactions, hydrogen retention, and oxygen gettering)
IT 7782-42-5, Graphite, processes 12597-68-1, Stainless steel, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nuclear fusion reactor boron wall coating plasma-surface interactions, hydrogen retention, and oxygen gettering)
IT 7440-42-8, Boron, properties
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(nuclear fusion reactor boron wall coating

plasma-surface interactions, hydrogen retention, and
oxygen gettering)

IT 19287-45-7, Diborane
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(nuclear fusion reactor boron wall coating plasma-surface interactions, hydrogen retention, and oxygen gettering)

IT 1333-74-0, Hydrogen, processes 7782-44-7, Oxygen, processes
RL: REM (Removal or disposal); PROC (Process)
(nuclear fusion reactor boron wall coating plasma-surface interactions, hydrogen retention, and oxygen gettering)

L54 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:982457 HCAPLUS Full-text
DN 124:17354
OREF 124:3226h,3227a
TI Method and apparatus for coating inside surface of nuclear fuel rod cladding tubes
IN Marshall, John, III
PA Surface Solutions, Inc., USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9526426	A1	19951005	WO 1995-US3899	19950328 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9523792	A	19951017	AU 1995-23792	19950328 <--
PRAI	US 1994-218659	A	19940328 <--		
	WO 1995-US3899	W	19950328 <--		

AB Emission enhanced sputtering magnetron apparatus for uniformly sputter-depositing coatings on the inner surfaces of fuel rod cladding tubes for nuclear reactors includes an elongated rod or bar-like cathode jacketed by a target material. The target material used for coating fuel rod cladding tubes includes n poisons or absorbers, such as B or B alloys, as well as another burnable poison or getter materials. An electron emission enhancement device positioned around the end of the elongated cathode creates a thin, highly uniform plasma sheath along the remainder of the cathode , thereby enhancing the sputtering rate along the entire length of the cathode target material. A low voltage, high current a.c. or d.c. magnet supply connected across the elongated cathode generates a plasma-confining magnetic field circumferentially around the entire length of the cathode.

IC ICM C23C014-34

CC 71-5 (Nuclear Technology)

L54 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1995:240431 HCAPLUS Full-text

DN 122:15445

OREF 122:3113a,3116a

TI Modelization of reaction kinetics of nitrogen and titanium during TiN arc deposition

AU Coll, Bernard F.; Chhowalla, Manish

CS Multi-Arc Scientific Coatings, 200 Roundhill Drive, Rockaway, NJ, 07866, USA

SO Surface and Coatings Technology (1994), 68/69, 131-40
CODEN: SCTEEJ; ISSN: 0257-8972

PB Elsevier

DT Journal

LA English

AB Reactive arc deposition is a very complex non-linear process in which many parameters are involved. These parameters can be either dependent or independent variables. Consequently, it is difficult to control the process by exptl. observations. Therefore, for a better understanding of reactive arc evaporation mechanisms and proper selection of appropriate plasma and deposition conditions, a simple model based on reaction kinetics and energy balance should be defined. According to this model it is possible to predict phenomena occurring at the cathode and influencing the reactive deposition at the substrate. For reactive arc deposition of TiN films, this model will deal with poisoning and gettering effects of nitrogen and titanium resp. It will emphasize their influence on the evaporation rate, deposition rate and subsequently emission and deposition of the microparticles. Exptl. results and measurements on reactive arc deposition of TiN are reported and verified using the theor. model.

CC 57-2 (Ceramics)

Section cross-reference(s): 78

L54 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:190347 HCAPLUS Full-text
DN 114:190347
OREF 114:32053a,32056a
TI Study of the condensed phase in metallic condensates
AU Anisimov, V. P.; Anisimova, I. A.
CS USSR
SO Strukt. Svoistva Mono- Polikrist. Mater. (1990), 84-6.
Editor(s): Andrievskii, R. A. Publisher: Ilim, Frunze, USSR.
CODEN: 57CNAR
DT Conference
LA Russian
AB Vapor-deposited Ti on a glassy ceramic substrate showed the microroughness 0.04-3 μm which increased with the presence of microdroplets associated with a short plasma flow path after evaporation by elec. arc from a cathode. The smooth surface was obtained by a long plasma flow of ≤200 cm in the presence of an axial magnetic field for ionic gettering.
CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57
ST titanium vapor coating plasma flow; glassy ceramic coating titanium plasma
IT Glass ceramics
(Sitall, coating of, with titanium by vapor deposition, plasma flow control for smoothness in)
IT Coating process
(plasma-vapor, of titanium, on glass ceramics, flow control for smoothness in)
IT 7440-32-6, Titanium, uses and miscellaneous
RL: USES (Uses)
(vapor, coating with plasma-containing, of glass ceramics)

L54 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1971:89060 HCAPLUS Full-text
DN 74:89060
OREF 74:14459a,14462a
TI Materials produced by electrical discharges
AU Locker, L. D.
CS Bell Teleph. Lab., Murray Hill, NJ, USA
SO Modern Materials (1970), 7, 89-137
CODEN: MMADAN; ISSN: 0077-0000
DT Journal; General Review
LA English

AB A review is presented of the generation techniques and the use of elec. discharges. The generation techniques for d.c. and a.c. discharges are arc plasma to riches and glow discharge deposition by diode, triode, getter and bias sputtering, plasma anodization, chemical synthesis and hollow cathode heating. The most frequent uses of arc plasmas are for spray coatings and spray forming of parts. Vapor deposition techniques are used in manufacturing microelectronic components, e.g., dielec. films of SiO2 and Si3N4, semiconductors of Si, Ge, Group II-VI and III-V materials, superconductor and magnetic thin films. Metallurgical uses include ore decomposition and reduction Chemical syntheses include metal recovery, inorg. compds. and polymerization of monomers, e.g., styrene, on surfaces for thin film coatings. Addnl. uses encompass crystal growing, production of submicron particles of metals, carbides, oxides, nitrides, and intermetallic compds., and the sintering of surface coatings. 88 refs.
CC 48 (Unit Operations and Processes)
ST review elec discharge uses; elec discharge uses review; discharge elec uses review; plasma spraying coating; spraying coating plasma ; coating plasma spraying; electronic component prepn elec discharge; monomers polymn elec discharge; polymn monomers elec discharge; dielec prepn elec discharge; selenide semiconductor prepn discharge; tellurides semiconductor prepn discharge; semiconductor prepn elec discharge
IT Electric plasma
(application and generation of)

=> d l58 bib abs hitind retable tot

L58 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:720495 HCAPLUS Full-text
DN 141:234489
TI Filtered cathodic arc deposition method and apparatus for fuel cell plates
IN Gorokhovsky, Vladimir I.
PA G & H Technologies LLC, USA
SO U.S. Pat. Appl. Publl., 55 pp., Cont.-in-part of U.S. Ser. No. 826,940.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI US 20040168637 A1 20040902 US 2003-694453 20031027 <--
US 7300559 B2 20071127
CA 2305938 A1 20011010 CA 2000-2305938 20000410 <--
CA 2305938 C 20070703
US 20020007796 A1 20020124 US 2001-826940 20010406 <--
US 6663755 B2 20031216
PRAI CA 2000-2305938 A 20000410 <--
US 2001-826940 A2 20010406 <--

AB The invention relates to an apparatus for the application of coatings in a vacuum comprising a plasma duct surrounded by a magnetic deflecting system communicating with a first plasma source and a coating chamber in which a substrate holder is arranged off of an optical axis of the plasma source, has at least one deflecting electrode mounted on one or more walls of the plasma duct. In one embodiment an isolated repelling or repelling electrode is positioned in the plasma duct downstream of the deflecting electrode where the tangential component of a deflecting magnetic field is strongest, connected to the pos. pole of a current source which allows the isolated electrode current to be varied independently and increased above the level of the anode current. The deflecting electrode may serve as a getter pump to improve pumping efficiency and divert metal ions from the plasma flow. In a further embodiment a second arc source is activated to coat the substrates while a first arc source is activated, and the magnetic deflecting system for the first arc source is deactivated to confine plasma to the cathode chamber but permit electrons to flow into the coating chamber for plasma immersed treatment of the substrates. A load lock shutter may be provided between the plasma duct and the coating chamber further confine the plasma from the first arc source.

IC ICM C23C014-22
ICS C23C016-00
INCL 118723000ER; X42-756.9; X42-758.0; X20-429.841; X20-419.238
CC 76-11 (Electric Phenomena)
Section cross-reference(s): 52
ST filtered cathodic arc plasma CVD fuel cell plate
IT Sputtering cathodes
(arc; filtered cathodic arc plasma CVD apparatus for fuel cell plate)

IT Electric arc
Electric coils
Fuel cells
(filtered cathodic arc plasma CVD apparatus for fuel cell plate)

IT Vapor deposition apparatus
(plasma; filtered cathodic arc plasma CVD apparatus for fuel cell plate)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1992			EP 0495447 A1	HCAPLUS
Anon	1992			EP 0511153 A1	HCAPLUS
Anon	1994			DE 4223592 A1	
Anon	1999			DE 19739527 A1	HCAPLUS
Bergmann	1989			US 4877505 A	HCAPLUS
Buhl	1984			US 4448802 A	HCAPLUS
Buhl	1990			US 4929321 A	HCAPLUS
Buhl	1995			US 5387326 A	HCAPLUS
Decker	1998			US 5799549 A	
Ehrich	1997			US 5662741 A	HCAPLUS
Falabella	1994			US 5279723 A	HCAPLUS
Falabella	1995			US 5468363 A	HCAPLUS
Giersch	2002			US 6338778 B1	HCAPLUS
Gorokhovsky	1995			US 5380421 A	HCAPLUS
Gorokhovsky	1995			US 5435900 A	HCAPLUS
Gorokhovsky	1996			US 5587207 A	
Gorokhovsky	2003			US 6663755 B2	HCAPLUS
Gorokhovvsky	2003			US 6645354 B1	HCAPLUS
Grabarz	1994			US 5302266 A	HCAPLUS
Klepper	2002			US 6495002 B1	HCAPLUS
Kljuchko	1985			US 4492845 A	HCAPLUS
Martin	1995			US 5433836 A	HCAPLUS
Morrison	1984			US 4448659 A	HCAPLUS
Morrison	1988			US 4724058 A	
Ramalingam	1987			US 4673477 A	HCAPLUS
Ramalingam	1994			US 5298136 A	HCAPLUS
Sablev	1974			US 3793179 A	
Sablev	1996			US 5503725 A	HCAPLUS
Treglio	1994			US 5317235 A	
Welty	1996			US 5480527 A	HCAPLUS
Welty	1998			US 5840163 A	HCAPLUS
Welty	1999			US 5997705 A	HCAPLUS

L58 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:430333 HCAPLUS Full-text
DN 137:132958
TI A fed prototype using patterned DLC thin films as the cathode
AU Li, W.; Feng, T.; Mao, D. S.; Wang, X.; Liu, X. H.; Zou, S. C.; Zhu, Y. K.; Li, Q.; Xu, J. F.; Jin, S.; Zheng, J. S.
CS Ion Beam Laboratory, Shanghai Institute of Metallurgy, Chinese Academy of Sciences, Shanghai, 200050, Peop. Rep. China
SO International Journal of Modern Physics B: Condensed Matter Physics, Statistical Physics, Applied Physics (2002), 16(6 & 7), 993-997
CODEN: IJPBEV; ISSN: 0217-9792
PB World Scientific Publishing Co. Pte. Ltd.
DT Journal
LA English
AB In our study, diamond-like-carbon (DLC) thin films were prepared by filtered arc deposition (FAD), which provided a way to deposit DLC thin films on large areas at room temperature Glass slides coated 100nm chromium or titanium thin films were used as cathode substrates. Millions of rectangular holes with sizes of 5+5µm were made on the DLC films using a routine patterning process. Here a special reactive ion beam etching method was applied to etch the DLC films. The anodes of the devices were made by electrophoretic deposition. ZnO:Zn phosphor (P15) was employed, which has a broad band bluish green (centered at 490nm). Before electrophoretic deposition, the anode substrates (ITO glass slides) had been patterned into 50 anode electrodes. In order to improve the adherence of phosphor layers, the as-deposited screens were treated in Na_2SiO_3 solution for 24h to add addnl. binder. A kind of matrix-addressed diode FED prototype was designed and packaged. 50-100µM-thick glass slides were used as spacers and getters were applied to maintain the vacuum after the exhaustion. The applied DC voltage was ranged in 0-3000V and much higher c.d. was measured in the cathode-patterned prototypes than the unpatterned ones during the test. As a result, characters could be well displayed.
CC 76-12 (Electric Phenomena)
ST diamond like carbon field emission displaye cathode
IT Anodes
Cathodes
Current density
Diodes
Electric arc
Electric potential
Field emission cathodes
Field emission displays
Getters

Phosphors
(fed prototype using patterned DLC thin films as cathode
)
IT Etching
(sputter, ion-beam, reactive; fed prototype using patterned DLC
thin films as cathode)
IT 7440-44-0, Carbon, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(diamond-like; fed prototype using patterned DLC thin films as
cathode)
IT 1314-13-2, Zinc oxide (ZnO), properties 7440-66-6, Zinc,
properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(fed prototype using patterned DLC thin films as cathode
)
IT 50926-11-9, ITO
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(glass slides; fed prototype using patterned DLC thin films as
cathode)
IT 7440-32-6, Titanium, properties 7440-47-3, Chromium, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(substrate; fed prototype using patterned DLC thin films as
cathode)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1999			Annual report 1999 o	
Anon				http//www.candescent	
Chen, K	2000	9	1249	Diamond Relat Mater	HCAPLUS
Holloway, P	1999	17	758	J Vac Sci Technol B	HCAPLUS
Hutchins, D	2000		375	presented in the 6	
Mao, D	1999	17	311	J Vac Sci Technol B	HCAPLUS
Mao, D	2000	18	2420	J Vac Sci Technol B	HCAPLUS
Shimojo, T	1988	25	90	JEE	
Vanheusden, K	1996	79	7983	J Appl Phys	HCAPLUS

L58 ANSWER 3 OF 10 HCAPLUS
AN 2002:256539 HCAPLUS Full-text
DN 136:287649
TI Porous getter devices with reduced particle loss and
method for their manufacture
IN Conte, Andrea; Moraja, Marco
PA Saes Getters S.p.A., Italy
SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002027058	A1	20020404	WO 2001-IT488	20010925 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
IT 2000MI2099	A1	20020327	IT 2000-MI2099	20000927 <--
IT 1318937	B1	20030919		
TW 278523	B	20070411	TW 2001-90123227	20010920 <--
AU 2001095881	A	20020408	AU 2001-95881	20010925 <--
EP 1322795	A1	20030702	EP 2001-976619	20010925 <--
EP 1322795	B1	20070815		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004509757	T	20040402	JP 2002-530818	20010925 <--
RU 2253695	C2	20050610	RU 2003-112221	200109

25

<--

AT 370261 T 20070915 AT 2001-976619
200109
25

<--

US 20020093003 A1 20020718 US 2001-967234
200109
27

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US 6620297 B2 20030916
US 20030165707 A1 20030904 US 2003-389382
200303
14

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US 6783696 B2 20040831
KR 784584 B1 20071210 KR 2003-704244
200303
24

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US 20050023134 A1 20050203 US 2004-871353
200406
18

<--

US 7122100 B2 20061017
HK 1073337 A1 20071130 HK 2005-105847
200507
11

<--

PRAI IT 2000-MI2099 A 20000927 <--
WO 2001-IT488 W 20010925 <--
US 2001-967234 A3 20010927 <--
US 2003-389382 A1 20030314

AB A method for reducing the loss of particles form the surface of porous getter bodies, consisting in producing on this surface a thin layer of a metal or metal alloy with a deposition technique selected among evaporation, deposition from arc generated plasma , deposition form ionic beam and cathodic deposition.

IC ICM C23C014-16
ICS H01J007-18; F04B037-04

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 55, 56

ST manuf porous getter device reduced particle loss

IT Ion beams
(deposition; porous getter devices with reduced particle loss and method for manufacture)

IT Electric arc

Electrophoresis
Evaporation
Getters
Particles
Plasma
Screen printing
(porous getter devices with reduced particle loss and method for manufacture)

IT Titanium alloy, base
Zirconium alloy, base
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(porous getter devices with reduced particle loss and method for manufacture)

IT 7429-90-5, Aluminum, uses 7439-98-7, Molybdenum, uses 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-58-6, Hafnium, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses 7704-98-5, Titanium hydride 11105-16-1, Zirconium hydride 12780-86-8 75846-81-0 405938-05-8, Cobalt 14, yttrium 5, zirconium 81 405938-06-9, Cobalt 14, lanthanum 5, zirconium 81
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(porous getter devices with reduced particle loss and method for manufacture)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Gabbrielli, E	1957			FR 1132524 A	
Getters Spa	2000			WO 0007209 A	HCAPLUS
Paolo, D	2000			WO 0075950 A	
Xrt Corp	2000			WO 0010643 A	HCAPLUS

L58 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:72629 HCAPLUS Full-text
DN 136:136696
TI Method and apparatus for application of filtered cathodic arc deposition coatings in a vacuum
IN Gorokhovsky, Vladimir I.
PA G & H Technologies LLC, Can.
SO U.S. Pat. Appl. Publ., 40 pp.
CODEN: USXXCO
DT Patent
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020007796	A1	20020124	US 2001-826940	20010406 <--
	US 6663755	B2	20031216		
	CA 2305938	A1	20011010	CA 2000-2305938	20000410 <--
	CA 2305938	C	20070703		
	US 20040168637	A1	20040902	US 2003-694453	20031027 <--
	US 7300559	B2	20071127		
	US 20040103845	A1	20040603	US 2003-713529	20031113 <--
	US 7252745	B2	20070807		
	US 20080116058	A1	20080522	US 2007-890736	20070806 <--
PRAI	CA 2000-2305938	A	20000410 <--		
	US 2001-826940	A2	20010406 <--		
	US 2003-713529	A1	20031113		

AB An apparatus for the application of coatings in a vacuum comprising a plasma duct surrounded by a magnetic deflecting system communicating with a first plasma source and a coating chamber in which a substrate holder is arranged off of an optical axis of the plasma source, has at least one deflecting electrode mounted on one or more walls of the plasma duct. In one embodiment an isolated repelling or repelling electrode is positioned in the plasma duct downstream of the deflecting electrode where the tangential component of a deflecting magnetic field is strongest, connected to the pos. pole of a current source which allows the isolated electrode current to be varied independently and increased above the level of the anode current. The deflecting electrode may serve as a getter pump to improve pumping efficiency and divert metal ions from the plasma flow. In a further embodiment a second arc source is activated to coat the substrates while a first arc source is activated, and the magnetic deflecting system for the first arc source is deactivated to confine

plasma to the cathode chamber but permit electrons to flow into the coating chamber for plasma immersed treatment of the substrates. A load lock shutter may be provided between the plasma duct and the coating chamber further confine the plasma from the first arc source.

IC ICM C23C016-00

INCL 118723000ER

CC 47-2 (Apparatus and Plant Equipment)
Section cross-reference(s): 48, 52, 56, 57, 76

IT Sputtering
(anodes, arc; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Coating materials
(anticorrosive; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Sputtering cathodes
(arc; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(chemical; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Superlattices
(coatings; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(ion plating; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Coating process
Electric arc
Fasteners
Ion implantation
Magnetic field
Plasma
Vacuum
Vacuum arc
(method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Vapor deposition process
(phys.; method and apparatus for application of filtered cathodic arc deposition coatings in vacuum)

IT Nitriding

(plasma; method and apparatus for application of filtered
cathodic arc deposition coatings in
vacuum)
IT Fuel cell electrodes
(plates; method and apparatus for application of filtered
cathodic arc deposition coatings in
vacuum)
IT 12741-56-9, H13 Steel
RL: TEM (Technical or engineered material use); USES (Uses)
(Ti implantation in; method and apparatus for application of
filtered
cathodic arc deposition coatings in
vacuum)
IT 7440-48-4, Cobalt, uses
RL: MOA (Modifier or additive use); USES (Uses)
(WC with; method and apparatus for application of filtered
cathodic arc deposition coatings in
vacuum)
IT 7782-40-3, Diamond, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon like; method and apparatus for application of filtered
cathodic arc deposition coatings in
vacuum)
IT 7440-44-0, Carbon, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(diamond-like; method and apparatus for application of filtered
cathodic arc deposition coatings in
vacuum)
IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(fuel cell endplates; method and apparatus for application of
filtered
cathodic arc deposition coatings in
vacuum)
IT 7440-32-6, Titanium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(implantation, in steel; method and apparatus for application of
filtered cathodic arc deposition
coatings in vacuum)
IT 74-82-8, Methane, processes 7550-45-0, Titanium tetrachloride,
processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)
(method and apparatus for application of filtered cathodic
arc deposition coatings in vacuum)
IT 12597-68-1, Stainless steel, uses 12597-69-2, Steel, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical

process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(method and apparatus for application of filtered cathodic
arc deposition coatings in vacuum)

IT 7439-98-7, Molybdenum, uses 7440-05-3, Palladium, uses
7440-06-4, Platinum, uses 10043-11-5, Boron nitride, uses
12069-32-8, Boron carbide 12070-12-1, TUngsten carbide wc
12347-09-0, Titanium carbide nitride ticn 12656-55-2, Boron
carbide nitride bcn 12705-37-2, Chromium nitride 24094-93-7,
Chromium nitride crn 25583-20-4, Titanium nitride tin
25658-42-8, Zirconium nitride zrn 39402-02-3
RL: TEM (Technical or engineered material use); USES (Uses)
(method and apparatus for application of filtered cathodic
arc deposition coatings in vacuum)

L58 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:1729 HCAPLUS Full-text
DN 130:147221
TI N2 gas absorption in cathodic arc apparatus with Al
cathode under medium vacuum
AU Takikawa, Hirofumi; Kawakami, Naoya; Sakakibara, Tateki
CS Toyohashi University of Technology, Aichi, 441-8580, Japan
SO Proceedings - International Symposium on Discharges and Electrical
Insulation in Vacuum, 18th, Eindhoven, Aug. 17-21, 1998 (
1998), Volume 2, 597-600 Publisher: Institute of Electrical
and Electronics Engineers, New York, N. Y.
CODEN: 67CHAK
DT Conference
LA English
AB Al evaporation and N2 absorption rates during a cathodic arc
evaporation process with Al cathode and N2 gas flow are measured as a
function of process pressure. These rates decrease as the pressure
increases. The ratio of Al evaporation rate to N2 absorption rate is
.apprx.2:1. The film deposited on the anode chamber is analyzed by
XRD and is AlN. N2 gas is mostly absorbed and fixed in the film as a
form of AlN by getter action of Al ion.
CC 76-11 (Electric Phenomena)
Section cross-reference(s): 75
IT Absorption
Absorption kinetics
Cathodes
Electric arc
Erosion (wear)
Evaporation
Pressure
Reactive sputtering
(aluminum evaporation and nitrogen absorption rates during

cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition)

IT Surface structure
(aluminum evaporation and nitrogen absorption rates during
cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition in relation to)

IT Gettering
(aluminum evaporation and nitrogen absorption rates during
cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition involving)

IT Electric current
Electric potential
(arc; aluminum evaporation and nitrogen absorption
rates during cathodic arc evaporation
process with aluminum cathode and nitrogen gas flow as
function of process pressure in aluminum nitride deposition in
relation to)

IT Physical process kinetics
(evaporation; aluminum evaporation and nitrogen absorption rates
during
cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition)

IT 7429-90-5, Aluminum, processes 7727-37-9, Nitrogen, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(aluminum evaporation and nitrogen absorption rates during
cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition)

IT 24304-00-5P, Aluminum nitride (AlN)
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); SPN (Synthetic preparation); PREP (Preparation); PROC
(Process)
(aluminum evaporation and nitrogen absorption rates during
cathodic arc evaporation process with
aluminum cathode and nitrogen gas flow as function of
process pressure in aluminum nitride deposition)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hirohata, Y	1976	45	402	Oyo Butsuri	HCAPLUS

Ishihara, M	1996	281-2	321	Thin Solid Films	HCAPLUS
Martin, P	1997			Asia-European Int'l	
Morita, M	1981	20	17	J Appl Phys	HCAPLUS
Takikawa, H	1994	B3-10	523	2nd Asia-Pacific Con	
Takikawa, H				Pressure change and	
Takikawa, H	1991	111-A	1042	Trans IEE of Japan	
Takikawa, H	1997	117-A	660	Trans IEE of Japan	

L58 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1997:767577 HCAPLUS Full-text
DN 128:91992
OREF 128:17921a,17924a
TI Study and elaboration of ternary chromium based compounds (Cr, O, N) deposited by vacuum arc evaporation
AU Gautier, C.; Machet, J.
CS cedex, 123 av. A. Thomas, Groupe PVD, LMCTS, Faculte des Sciences, Universite de Limoges, Limoges, 87060, Fr.
SO Surface and Coatings Technology (1997), 94-95(1-3), 422-427
CODEN: SCTEEJ; ISSN: 0257-8972
PB Elsevier Science S.A.
DT Journal
LA English
AB Ternary chromium-based films (Cr, O, N) have been deposited using a conventional arc coating system. The effect of N_2 and O_2 partial pressures, pO_2, pN_2, on the formation of the Cr-O-N compds. and on the structural properties (texture, grain size, residual stress) has been studied. The mech. properties (microhardness, adhesion and wear resistance) have also been investigated. Two kinds of coatings are obtained. For low oxygen flow rates ($QO_2/QN_2<0.44$) only the chromium nitride phases can be detected by XRD anal. The addition of oxygen leads to a better crystallization state of the coatings. Though the compressive stress increases from about -1.5 GPa ($QO_2/QN_2=0$) to -3 GPa ($QO_2/QN_2=0.35$) the mech. properties do not decrease. The microhardness is about 25 GPa and the critical load between 45 and 50 N. For $QO_2/QN_2\geq0.44$ the chromium nitride phases can no longer be detected, and only Cr_2O_3 as well as a non-identified phase (whose diffraction peak is located at $\Theta=38.5°$) are observed The microhardness is largely improved (45 GPa for $QO_2/QN_2=0.44$), but in contrast the adhesion and the wear resistance are drastically reduced. For $QO_2/QN_2\leq0.4$, the oxygen partial pressure is low ($pO_2/pN_2=1$ for $QO_2/QN_2=0.4$). The major part of the introduced oxygen mols. are physisorbed on the walls of the deposition chamber due to the gettering effect of chromium. Therefore, few reactive oxygen species impinge on the growing film. On the contrary, when $QO_2/QN_2>0.4$ all the oxygen mols. cannot be absorbed, the oxygen partial pressure increases, and this leads to a poisoning of the

chromium cathode provoking simultaneously a decrease of the evaporation rate. In this case, a lot of reactive oxygen species impinge on the growing films promoting the growth of the chromium oxide.

CC 57-2 (Ceramics)

ST chromium carbide nitride vacuum arc evapn

IT Vapor deposition process
(chemical, vacuum arc evaporation; effects of N2 and O2 partial pressures the formation, structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

IT Adhesion, physical
Grain size
Microhardness
Wear
(effects of N2 and O2 partial pressures the formation, structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

IT Partial pressure
(oxygen and nitrogen; effects of N2 and O2 partial pressures the formation, structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

IT 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(CVD atmospheric; effects of N2 and O2 partial pressures the formation,
structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

IT 1308-38-9P, Chromium oxide, preparation 12705-37-2P, Chromium nitride
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(chromium carbonitride coatings; effects of N2 and O2 partial pressures the formation, structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

IT 97836-62-9P, Chromium nitride oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(coatings; effects of N2 and O2 partial pressures the formation, structure and mech. properties of Cr-O-N coatings deposited by vacuum arc evaporation)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Carlsson, P	1993	11	1534	J Vac Sci Technol A	HCAPLUS
Contoux, G	1997	292	75	Thin Solid Films	HCAPLUS
Ehrlich, A	1995	76-77	280	Surf Coat Technol	HCAPLUS
Elstner, F	1996	154	669	Phys Stat Sol, (a)	
Fabis, M	1990	8	3809	J Vac Sci Technol A	
Fabis, M	1990	8	3819	J Vac Sci Technol A	
Gautier, C	1997	295	43	Thin Solid Films	HCAPLUS
Johnson, P			209	Thin Films Processes	
Lory, C	1988		75	Thesis, University o	
Milosev, I	1993	140	L30	J Electrochem Soc	HCAPLUS
Pellman, M	1993		721	Surface Modification	
Polato, P	1994	248	184	Thin Solid Films	HCAPLUS
Sherrer, P	1918	2	98	Gottinger Nachr	
Sue, J	1993	61	115	Surf Coat Technol	HCAPLUS
Sue, J	1995	76-77	61	Surf Coat Technol	HCAPLUS
Sundgren, J	1985	128	21	Thin Solid Films	HCAPLUS
Trube, J	1993	11	2990	J Vac Sci Technol B	HCAPLUS
Wang, D	1990	185	219	Thin Solid Films	HCAPLUS

L58 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1995:240431 HCAPLUS Full-text

DN 122:15445

OREF 122:3113a,3116a

TI Modelization of reaction kinetics of nitrogen and titanium during TiN arc deposition

AU Coll, Bernard F.; Chhowalla, Manish

CS Multi-Arc Scientific Coatings, 200 Roundhill Drive, Rockaway, NJ, 07866, USA

SO Surface and Coatings Technology (1994), 68/69, 131-40
CODEN: SCTEEJ; ISSN: 0257-8972

PB Elsevier

DT Journal

LA English

AB Reactive arc deposition is a very complex non-linear process in which many parameters are involved. These parameters can be either dependent or independent variables. Consequently, it is difficult to control the process by exptl. observations. Therefore, for a better understanding of reactive arc evaporation mechanisms and proper selection of appropriate plasma and deposition conditions, a simple model based on reaction kinetics and energy balance should be defined. According to this model it is possible to predict phenomena occurring at the cathode and influencing the reactive deposition at

the substrate. For reactive arc deposition of TiN films, this model will deal with poisoning and gettering effects of nitrogen and titanium resp. It will emphasize their influence on the evaporation rate, deposition rate and subsequently emission and deposition of the microparticles. Exptl. results and measurements on reactive arc deposition of TiN are reported and verified using the theor. model.

CC 57-2 (Ceramics)
Section cross-reference(s): 78

ST model titanium nitrogen reaction kinetics; arc deposition titanium nitride model

IT Kinetics, reaction
(math. modeling of reaction kinetics of nitrogen and titanium during TiN arc deposition)

IT Simulation and Modeling, physicochemical
(of reaction kinetics of nitrogen and titanium during TiN arc deposition)

IT Vapor deposition processes
(reactive arc deposition; math. modeling of reaction kinetics of nitrogen and titanium during TiN arc deposition)

IT 25583-20-4, Titanium nitride TiN
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(coatings; math. modeling of reaction kinetics of nitrogen and titanium during TiN arc deposition)

L58 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:190347 HCAPLUS Full-text
DN 114:190347
OREF 114:32053a,32056a
TI Study of the condensed phase in metallic condensates
AU Anisimov, V. P.; Anisimova, I. A.
CS USSR
SO Strukt. Svoistva Mono- Polikrist. Mater. (1990), 84-6.
Editor(s): Andrievskii, R. A. Publisher: Ilim, Frunze, USSR.
CODEN: 57CNAR
DT Conference
LA Russian
AB Vapor-deposited Ti on a glassy ceramic substrate showed the microroughness 0.04-3 μm which increased with the presence of microdroplets associated with a short plasma flow path after evaporation by elec. arc from a cathode. The smooth surface was obtained by a long plasma flow of ≤200 cm in the presence of an axial magnetic field for ionic gettering.

CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57

L58 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:113059 HCAPLUS Full-text
DN 114:113059
OREF 114:19049a,19052a
TI Laminated nanometer titanium/titanium nitride coatings deposited by a reactive cathodic arc technique
AU Vetter, J.; Erben, J.; Rother, B.
CS Sekt. Phys./Elektron. Bauelem., Tech. Univ. Chemnitz, Chemnitz, 9010, Germany
SO Thin Solid Films (1991), 196(1), L11-L13
CODEN: THSFAP; ISSN: 0040-6090
DT Journal
LA English
AB The arc deposition is described of a sequence of TiN and Ti coatings using vacuum for the Ti and 0.04 Pa N2 for the TiN deposition. The Ti vapor gettering produces narrow transition regions between the layers.
CC 76-12 (Electric Phenomena)
Section cross-reference(s): 66
ST arc deposition titanium nitride coating
IT Getters
(by titanium during titanium nitride deposition, interface changes from)
IT 7440-32-6, Titanium, uses and miscellaneous
RL: USES (Uses)
(arc deposition of laminates of titanium nitride with)
IT 25583-20-4, Titanium mononitride
RL: USES (Uses)
(arc deposition of titanium laminates with)

L58 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1973:138304 HCAPLUS Full-text
DN 78:138304
OREF 78:22223a,22226a
TI Metal sputtering apparatus
IN Sablev, L. P.; Atamanskii, N. P.; Gorbunov, V. N.; Dolotov, Yu. I.; Luzenko, V. N.; Lunev, V. M.; Usov, V. V.
SO Ger. Offen., 60 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2136532	A1	19730208	DE 1971-2136532	

197107
21

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     DE 2136532          C3     19790322
PRAI DE 1971-2136532     A      19710721  <--
AB    An apparatus for the manufacture of metal coatings by elec. arc
      sputtering is described which enables improved utilization of the
      metal source. The cathode consisting of the metal to be evaporated is
      mounted on a cooling bed opposite to the hollow and has an ignition
      electrode for generating the cathode spot.  The cathode spot is fixed
      by screens which prevent transition of the spot to the surface not to
      be evaporated
IC    C23C
CC    47-9 (Apparatus and Plant Equipment)
      Section cross-reference(s): 55, 56
IT    Coating process
         (by vapor deposition, elec.  arc
         evaporator for)
IT    Evaporators
         (elec. arc, for coating and vacuum production)
IT    Electric arc
         (evaporators, for coating and vacuum production)
IT    Vacuum
         (production of, by gettering, evaporator for late)

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